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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of:

Amendment of the Commission's Rules to Establish New Personal Communications Services	}	GEN Docket #90-314

REPLIES OF MOTOROLA, INC. TO PETITIONS FOR RECONSIDERATION OF PCS SECOND REPORT AND ORDER

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I. Introduction and Summary

The FCC has undertaken one of the largest allocations of spectrum in U.S. history to ensure the advent of advanced Personal Communications Services. The goals are to ensure low cost, anytime and anywhere telecommunications capabilities that allow consumers to carry the power of networks on their persons. The decision to allocate 160 MHz of spectrum for PCS has the potential to provide the public an incredibly wide variety of services delivered with high quality in-building, pedestrian or vehicular coverage. This allocation sets the stage for a quantum leap forward in telecommunications capabilities and the competitiveness of U.S. telecommunications in the global marketplace. However, without increased Commission attention to technical standards the vision for PCS may never become a reality.

From a policy point of view the FCC has endeavored to balance the multiple objectives of universality, rapid deployment, diverse services and competitive delivery. These objectives for PCS are ambitious and unprecedented; they are also complex and require the commitment of the FCC to industry developed equipment standards to be successful and globally far-reaching. In petitions for reconsideration and clarification, Motorola and other manufacturers recommended that the FCC require conformance to common air interfaces standards developed by an ANSI accredited body as a condition for type acceptance of licensed PCS equipment.

In these comments, Motorola recommends that the FCC modify its Second Report and Order to set a specific mandatory deadline for completion of interim standards and that conformance to those standards be a condition for equipment approval.[1] Motorola believes the TIA, T-1, and the Joint Technical Council (JTC) are well-suited and competent to take on this assignment and complete it within the time constraints necessary for standards to make the critical difference. On a separate issue, Motorola also opposes petitions to weaken or reduce the emission limits in the first adjacent 1.25 MHz channel for the unlicensed PCS etiquette.

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[1] A standard is viewed as interim until it receives full ANSI approval. Cellular systems operated for a number of years under an interim standard which later received full ANSI approval.

II. Standards for Common Air Interface are Necessary for Realizing the PCS Vision.

Motorola supports the FCC vision of anytime and anywhere PCS. The American public deserves to see the vision emerge into a successful reality. Ensuring the success of anytime and anywhere PCS is why Motorola and other equipment manufacturers are concerned that the FCC's decision did not go far enough in addressing the need for licensed PCS equipment standards. Simply stated, incompatible equipment threatens to thwart the vision of Personal Communications Services and to deny the American public its full benefits.

The record before the FCC in the PCS proceeding reflects a general industry consensus that the FCC should defer the actual formulation of equipment standards to industry standards bodies. This approach has been pursued successfully in other areas such as the cellular service. Unlike the approach taken in the cellular service, however, the FCC has explicitly declined to require interoperability and conformance to standards for PCS.

In the Second Report and Order the Commission contemplates unprecedented diversity for PCS services. PCS spectrum comes in a multiplicity of sizes and shapes -- the FCC has established three differently sized spectrum blocks (10 MHz, 20 MHz and 30 MHz), two differently sized services areas (MTAs and BTAs) and seven different licenses for competitive service providers. The net effect is over 2,500 authorizations available for auction as individual licenses or parts of combinatorial bids. Without a requirement for standards, not only will multiple technologies result, but also multiple approaches within each technology which could easily create chaos. *De facto* standards in this environment will severely limit interoperability, roaming, and reduce any cost advantages inherent to volume manufacturing.

In this context, a *laissez faire* view of standards could jeopardize the achievement of the expected public interest gains from wireless communications. Incompatible equipment and networks could quickly lead to islands of service and frustrated consumers who have invested in equipment which cannot access or exploit the wireless resources available and acclaimed. There is a real threat that the vision of PCS will become anything but a success without industry developed standards to ensure interoperability and compatibility. FCC leadership in recognizing the importance of industry standards and requiring adherence to industry-developed licensed PCS air interface standards is critical.

Officially adopted standards also significantly increase the likelihood that technology adopted in the U.S. will become the model for international PCS systems in this decade and beyond. As the TIA Mobile and Personal Communications Division observed in its petition for reconsideration government endorsement of standards greatly enhances U.S. global technology leadership opportunities. Without government endorsement, U.S. technology paths are viewed by many third country regulatory bodies as renegade, or unworthy of being granted "standards" status. Further, since the U.S. PCS decision postdates Japanese and European allocations in the 1.5-2.0 GHz range, Japanese and European systems would likely fill the void left open by U.S. technologies that are not government endorsed standards. 3Standards will therefore increase opportunities for U.S. systems in the global marketplace.

III. The FCC Should Demonstrate its Commitment to Ensuring Interim PCS Interoperability and Compatibility By Requiring Industry Standards Bodies to Adopt Interim PCS Equipment Standards No Later than September 1994.

The vision of seamless, ubiquitous PCS services can be advanced without inappropriate FCC intrusion into the standards process. As noted in our Petition for Reconsideration and Clarification, TIA and T-1 with the help of the JTC are already well underway in developing PCS standards. Motorola recommends that the FCC take the following companion action on reconsideration of the PCS rules:

1. Modify its Second Report and Order by stating its commitment to ensuring interoperability and compatibility for licensed PCS;

2. Formally direct ANSI accredited industry standards bodies such as TIA and T-1 to adopt interim PCS equipment standards no later than September 1994;

3. Modify its rules to include a requirement that PCS equipment authorization requests must certify compliance with interim industry standards developed by ANSI accredited standards bodies.

This approach would ensure a higher degree of interoperability and compatibility through compliance with industry developed standards. Further, the need to ensure the adoption of standards while preventing delays to the commencement of PCS services to the public would be

affirmatively addressed by an FCC requirement that standards be developed by a given date. In summary, this course of action poses no risks and offers great gains for the industry, the public and the country.

Motorola notes that the timetable is a challenging one for TIA, T-1 and the JTC to meet and yet, Motorola believes firmly that it is a challenge to which the industry can rise. The TIA, T-1 and their members, have substantial experience in the development of industry standards and the members fully understand the risks if there is no agreement to standards for common air interfaces of PCS. No one wants to risk failure -- or have the U.S. fail -- to bring the full vision of PCS services to the American public and the global marketplace.

IV. The Unlicensed PCS Etiquette Should Closely Follow the WINFORUM Proposals.

Motorola opposes petitions for reconsideration that recommend weakening or reducing the emission limits in the first adjacent 1.25 MHz channel. Some of the requests for changes to emissions are confusing and misleading and require further clarification. The confusion centers around the differences in measurement method between the WINForum proposal and the current rule. The current rule specifies an attenuation of emissions by 40 dB based on measurement with a 1% resolution bandwidth. The WINForum proposal specifies attenuation of emissions by 30 dB based on integration of the total emissions in the adjacent channel.

Direct comparison of these two measurement methods is difficult, as the comparison is a function of the shape of the emissions. However, the worst case limits show that the WINForum proposal can be either up to 10 dB less stringent or 10 dB more stringent than the current rule depending upon the particular emission shape. In practice, Motorola believes the FCC's current rule and the WINForum proposal are within a few dB of each other. Therefore, Motorola opposes unilateral change of the 40 dB specification, unless accompanied by a corresponding specification change to the measurement procedure to integrate total emissions in the adjacent 1.25 MHz channel.

CERTIFICATE OF SERVICE

I, Alice de Séve, of Motorola, Inc., do hereby certify that on this 30th day of December, 1993 a copy of the foregoing "Replies" was sent to each of the following by first-class mail, postage-prepaid except where service by hand is indicated(*):

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